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EXHIBIT F



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- LTC1960: Dual Battery Charger/Selector with SPI Interface
- LTC3728: Dual, 550kHz, 2-Phase Synchronous Step-Down Switching Regulator
- LTC3202: Low Noise, High Efficiency Charge Pump for White LEDs

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LTC1629 PolyPhase, High Efficiency, Synchronous Step-Down Switching Regulator

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FEATURES

- Dual Controller Operates from One to Twelve Phases
- Reduces Required Input Capacitance and Power Supply Induced Noise
- Current Mode Control Ensures Current Sharing
- Phase-Lockable Fixed Frequency: 150kHz to 300kHz
- 1.8MHz Effective Switching Frequency
- True Remote Sensing Differential Amplifier
- OPTI-LOOP™ Compensation Reduces COUT
- $\pm 1\%$ Output Voltage Accuracy
- Power Good Output Voltage Monitor (LTC1629-PG)
- Wide VIN Range: 4V to 36V Operation
- Very Low Dropout Operation: 99% Duty Cycle
- Adjustable Soft-Start Current Ramping
- Internal Current Foldback Plus Shutdown Timer
- Overvoltage Soft-Latch Eliminates Nuisance Trips
- Micropower Shutdown
- Available in 28-Lead SSOP Package

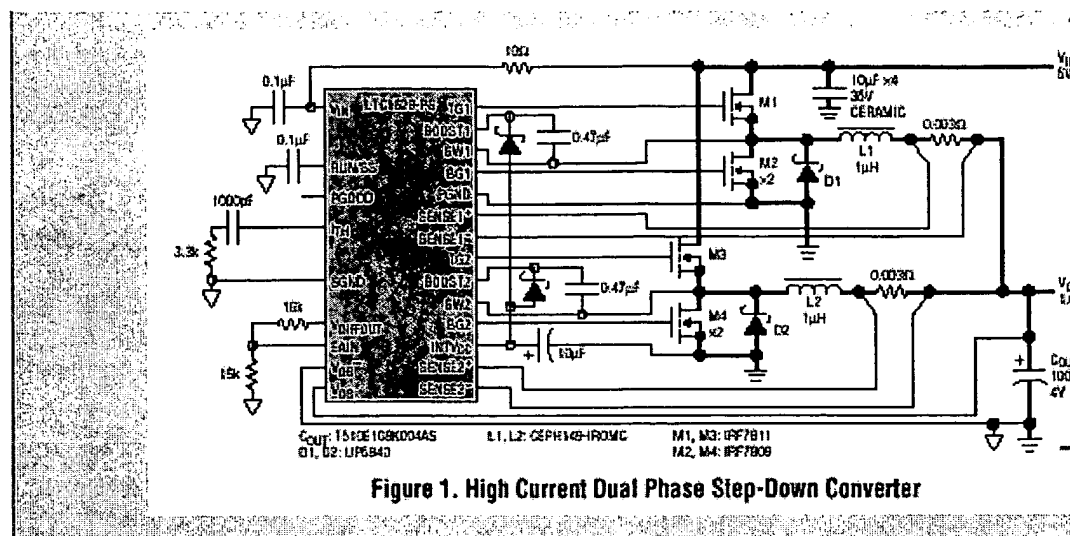
APPLICATIONS

- Desktop Computers
- Internet Servers
- Large Memory Arrays
- DC Power Distribution Systems

DESCRIPTION

The LTC®1629/LTC1629-PG phase, dual, synchronous step-mode switching regulator contains an N-channel external power MOSFET, phase-lockable fixed frequency. The PolyPhase™ controller drives output stages out of phase at frequencies from 150kHz to 300kHz to minimize the RMS current in both input and output capacitors. A clock signal allows expansion to evenly phased controllers for supplies from 15A to 200A of output current. The phase technique effectively multiplies the fundamental frequency by the number of channels used, improving transient response while operating each channel at a higher frequency for efficiency. Thermal design is also simplified. An internal differential amplifier provides true remote sensing of the regulated supply's positive and negative terminals as required for high-precision applications. A RUN/SS pin provides soft-start and optional timed, soft shutdown. Current foldback limits power dissipation during short-circuit conditions when the overcurrent latchoff is active. OPTI-LOOP compensation allows the response to be optimized over a wide range of output capacitance and ESR values. The LTC1629-PG includes a power good pin that replaces the AMPMD pin of the LTC1629.

TYPICAL APPLICATION



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